

REPORT ON  
LITTLE SQUAW, BONANZA, AND MIKADO GROUPS OF CLAIMS  
CHANDALAR, ALASKA

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The holdings of the Chandalar Gold Mines, Inc., lie in a group of mountains about 36 sq. mi. in extent, between latitudes 67-30 N and 67-35 N and longitudes 148-10 W and 148-20 W; or, in other words, between the Middle and North Forks of the Chandalar River and south of the valley formed by Lake and Graves Creeks.

The district is about 200 mi. north of Fairbanks; i.e., roughly two hours flying time. There is a winter wagon road from the town of Beaver on the Yukon about 75 mi. to Caro on the Chandalar, freighting over which costs 8¢ per pound; and a winter dog sled trail about 50 mi. from Caro to the district via either Flat Creek or Big Creek. Over these trails, freighting costs 7¢ per pounds.

Previous descriptions of the district (known as the Little Squaw Area) may be found in U.S.G.S. Bulletin No. 532 by A. G. Maddren and in Bulletin No. 773, p.p. 215 to 263 by J. B. Mertie.

Placer Mining has been done on Little Squaw, St. Mary's, Big, Big Squaw, and Tobin Creeks in that order of importance. Undoubtedly, the placer gold was derived from the numerous quartz lodes of the Area.

The Chandalar Gold Mines, Inc., holdings patented or surveyed for patent, as may be seen from the accompanying map, consist of:

A string of nine lode claims running from Crystal Peak on the Divide between Little McClellan Creek and Little Squaw Creek to Caribou Gulch on Big Squaw Creek. This is the Little Squaw Group, on only one of which; i.e., Little Squaw Claim, is there any showing of importance.

The Bonanza Group of six claims lying south of Little Squaw Peak on the Divide between the heads of Big Squaw and Little Squaw Creeks.

The Star Group of three claims lying south of St. Mary's Peak and north of St. Mary's Creek.

The Mikado Group of three claims at the head of Tobin Creek and St. Mary's Creek.

Three Mill Sites on Spring, Big, and Tobin Creeks, respectively.

#### LITTLE SQUAW MINE -

On the Little Squaw Lode Claim, just west of the pack trail, an adit has been driven into the hill-side for 185 feet, on a vein of quartz which strikes about S 75 W. At 160 feet from the portal, a raise has been driven 75 feet to the surface; and at 135 feet from the portal, a winze sunk 60 feet. The dip of the vein is about 80 deg. to the south. The above lengths of openings are reported by other observers, as at the time of my visit, everything was completely filled with ice; and in the time available, I was able to get the adit opened for a distance of only 80 feet from the portal. However, this portion of the adit coincides with what E. A. Boadway found to be the most valuable section of the vein. The first 30 feet of the adit is timbered; from that point, I took channel samples at five foot intervals across the full width of the vein, which, for the most part is unmineralized quartz except for a band on the foot-wall, of from eight to twelve inches wide, of quartz with a streaked and ribbon appearance, due to the presence of much sulphide--pyrite and arsenopyrite. Many of my measured vein widths are markedly and unaccountably greater than those of Boadway.

#### Assay Results -

My Sample No.	Width Inches	Value		Oz. Gold	Location
		J. V. S.	E. A. B. *		
35	58	0.22	0.75		Portal-30' West
36	63	0.10	0.35		" -35' "
37	80	0.54	0.84		" -40' "
38	65	0.04	0.14		" -45' "
39	65	0.18	5.42		" -50' "
40	67	0.18	1.33		" -55' "
41	55	2.56	0.25		" -60' "
42	48	0.78	0.82		" -65' "
45	46	0.32	2.02		" -70' "
47	35	0.30	9.91		" -75' "
48	33	0.18	0.72		" -80' "
46	65	0.38			

Duplicate No. 39

\*Boadway's assays reduced to ounces per ton.

The reason for taking a duplicate of No. 39 is that the sample was found to contain much wire gold, and yet panning of the rejects from cutting down the sample indicated only \$10.00 per ton. The occurrence of this wire gold no doubt gave Boadway his high assay at this interval.

Using the duplicate instead of the original sample assay, the weighted average value for the fifty feet of vein exposed is 0.506 oz. per ton with an average width of 67 inches. This is roughly only one-third of the value obtained by Boadway.

The surface above the adit was also examined and the accompanying sketch indicates the places at which the samples were taken:

Sample No.	Width Inches	Value Oz. Gold
1	102	0.06
2		2.04
3		2.34
4	65	0.06
5		1.08
6		0.02
7		0.04
8	27	0.02
9	6	0.02
43		0.04

Sample No. 1 represents eight and one-half feet of white quartz from a out between the portal and the raise about 55' east of the raise. No mineralization was evident here.

Sample No. 4 was taken from a Cut about 24' west of the raise and represents five and one-half feet of quartz containing some sulphides.

Samples Nos. 2 and 3 were taken from the same Open Cut as was No. 4, but are grab samples. No. 3 represents a minor amount of greenish quartz containing some sulphides, the green color probably being a chlorite stain; while No. 2 represents the heavily mineralized quartz. These assays show that the unmineralized quartz is very low grade.

Sample No. 5 was taken from a Cut about 60 feet west of the raise, the quartz of which, though mineralized, is less ribbony in appearance. At the west end of this Cut, the vein has narrowed down to only a

few inches in width.

Just beyond the Cut is a depression or break in the surface which may be the fault supposed to have cut off the vein at the face of the adit. However, several pits have been dug west of the break on the original line of the vein, in the first two of which a few odd pieces of quartz are visible, and in the third is exposed a vein of quartz 6 inches wide. Here sample No. 6 was taken.

Also west of the break, but about 65 feet south of the original strike, is a vein of unmineralized quartz averaging from two to three feet wide. Here samples No. 6, 7, and 8 were taken, the first two being grab samples, the last a channel sample. If, as is possible, this barren vein is the continuation of the Little Squaw Vein, it is just too bad.

Another very narrow stringer was found about 140 feet north of the original line of strike. This is represented by sample No. 43.

West of the Open Cuts, as shown in the sketch, were several more pits, but none of them exposed any quartz. The only other places in the Little Squaw Group where outcrops were observed are the Crystal claim and the Cosine Lode claim. In the vicinity of Crystal Peak on the east side of Little Squaw Creek was found a five foot vein of blank white quartz from which was out:

Sample No. 32 -----0.04 oz. gold.

Above the cabin on Rebbin's Gulch is another outcrop of white quartz, seven and one-half feet wide. Here I took a pick sample:

Sample No. 33 -----0.04 oz. gold.

Although the Little Squaw Group of claims form an end to end string, it is not to be thought that they are following anything more definite than a zone of sheering in the schistose country rock. There is no evidence of any continuity of vein or string of veins along that line.

To dispose of the observable facts in this Group, about 100' more or less below the Little Squaw Adit, several tunnels and tranches have been cut into the hillside without exposing the vein; the short tunnels were started without regard to the dip of the vein, but the trenches should have cut across it. It is therefore very doubtful that the vein has a depth of 100' below the adit. It is said that the vein has a width of less than two feet at the bottom of the 60' winze.

I also took a grab sample from a dump at the adit portal, from which dump it was possible to pick out numerous specimens showing coarse gold.

Sample No. 44 ----- 0.62 oz. gold.

The above sample seems low in view of the presence of so much high-grade, yet it is in line with my average value for the block sampled. It is interesting to note that, eliminating the two high assays which Boadway obtained, his average weighted value would be 0.80 oz. per ton.  
TONNAGE AND VALUE --

Mr. Boadway's guess is as good as anyone's as to the actual tonnage to be expected from the Little Squaw Mine. On the basis of a block of ore extending in 100' from the portal and from the surface to a depth of 100' below the adit level, I arrive at an estimate of 5500 tons of expected ore (using my average width of five and one-half feet), which at 0.505 oz. per ton at \$35.00 per oz. would be worth about \$97,000. However, I have no expectation that there is anything more than that in the deposit, the vein having no extension with values to the westward, and seemingly none in depth.

It is true that several of my samples west of the raise showed the presence of some ore on the surface, but Boadway's assays show that it does not extend to the adit level. In view, therefore, of small assured and expected tonnage, the proposition doesn't look even interesting at less than \$100 per ton.

MIKADO GROUP --

In the bed of St. Mary's Creek, about half a mile above the Big Creek Mill-Site is an outcrop of unmineralized quartz 11' wide from which was cut:

Sample No. 10 ----- 0.04 oz. gold.

About 50' upstream from the above outcrop is another equally wide outcrop of oxidized quartz, from which was cut:

Sample No. 11 ----- 0.24 oz. gold.

Just below the saddle at the head of St. Mary's Creek and on the left limit are pits partially exposing what are apparently two narrow ledges of quartz, where grab samples were taken as follows:

Sample No. 12 -- Westerly ledge -- 0.04 oz. gold

Sample No. 13 -- Easterly ledge -- 2.22 oz. gold

These two ledges are close together, and on the Mikado claim but their strike seems to follow the line of the hillside rather than the line of the Mikado Group of claims. A grab sample was also taken from another pit exposing quartz, practically on the Divide between St. Mary's and Tobin Creeks. Panning of this sample gave negative results.

The Tobin Shaft on the Little Mikado claim was disappointingly full of water and ice, and no equipment was on hand to attempt thawing and bailing it out. A grab sample was taken of the quartz from the dump, representing the heavily mineralized portion; i.e., that containing much pyrite. This was:

Sample No. 14 ----- 44.22 oz. gold.

Panning of a picked piece of quartz showing much sulphide indicated a value of \$60 to 75 per ton. The gold in the pan was very fine--no coarse pieces showing. I afterwards examined the crushed-down rejects of Sample No. 14 and found many coarse pieces of gold. Panning of a specimen of quartz said to have come from the bottom of the Shaft showed one color. About 200 feet west of the Shaft and lower down the hillside

is a pit exposing an outcrop of disintegrated quartz 63 inches wide, and apparently the same vein as that of the Shaft. Here was cut:

Sample No. 15 ----- 0.46 oz. gold.

I believe this to be the same pit from which Boadway got an assay of \$1.00 per ton. About 150 to 200 feet up the hill from the Shaft is another pit exposing a vein of white quartz. Panning of a grab sample from this gave negative results.

The results of the samples from the Shaft dump would warrant the reopening of the Shaft for complete sampling if this had not already been done. However, as far as the Shaft is concerned, I can add nothing to Boadway's results.

As is shown by the accompanying sketch, I sampled the vein system as exposed by the Adit, about 200 feet below the Shaft collar. A Brunton survey showed this to be undoubtedly the same ledge as that of the Shaft. The samples follow:

Foot - Wall Drift - West Side

Sample No. 16--Foot-Wall	- 36" qtz and schist	- 0.04 oz. gold
Sample No. 17--Center	- 8" qtz	- 0.04 oz. gold
Sample No. 18--Hang. Wall	- 14" qtz and schist	- 0.04 oz. gold

Foot - Wall Drift - East Side

Sample No. 34--Hang. Wall	- 13" qtz	- 0.88 oz. gold
Sample No. 19--Face	- 31" qtz and schist	- 0.14 oz. gold

Hanging-Wall Drift

Sample No. 20--8" qtz	- Hang. Wall	- 0.24 oz. gold
Sample No. 21--6" qtz with schist	- Ft. Wall	- 0.04 oz. gold

Where the samples indicate quartz and schist taken together, the vein material was composed of stringers and bunches of quartz interspersed with a considerable amount of schist.

The quartz of the Tobin Shaft as seen on the dump is much more heavily mineralized with pyrite and arsenopyrite than that of the Little Squaw; but its genesis cannot have been essentially different, and therefore the existence of a large tonnage is problematical if not improbable.

The ledges found on the Mikado claim are certainly not extensions of the Little Mikado or Tobin ledge. Moreover, the values found in the Tobin Adit are not reassuring as to extension of values in depth. I do consider the Tobin ledge to be a much better bet than the Little Squaw, but anything with average values of less than \$100 per ton is not to be recommended. It must be borne in mind that the Tobin Mine is in a not easily accessible location, and mining will be expensive. At the present time, for instance, firewood delivered from a distance of twelve miles from the property costs \$50 per cord.

BONANZA GROUP --

On the Little Squaw side of the Divide between Little and Big Squaw Creeks, on the Bonanza claim, is a pit exposing quartz containing a small amount of sulphides. Here a grab sample was taken:

Sample No. 22 ----- 0.02 oz. gold

On the north side of St. Mary's Peak, on the Woodchuck claim, a shallow shaft has been sunk on a vein of white quartz about 10 feet wide, but not fully exposed. Here a pick sample was taken:

Sample No. 23 ----- 0.10 oz. gold

Between these two pits and running up across the saddle for a distance of about 100 feet, is a wide outcrop of quartz. A pit has been opened on this, at about the highest point of the saddle- on the Woodchuck claim. Another grab sample was taken here.

Sample No. 24 ----- 0.02 oz. gold.

Down the hill from this saddle, on the Jupiter claim, a sort of tunnel has been opened up and timbered, exposing just underneath the talus a vein of disintegrated white and greenish quartz about four feet wide. Here was cut:

Sample No. 29 ----- 0.08 oz. gold

Around the turn of the hill from the Jupiter claim, but south



of the Eneveloe is another partially exposed vein of unmineralized quartz, from which a grab sample was taken:

Sample No. 25 ----- 0.06 oz. gold

At the head of Robbin's Gulch on the Eneveloe claim is a vein of white quartz 19 feet wide, through which run two seams of schist not included in the channel sample taken:

Sample No. 26 ----- Trace gold

This vein seems to be narrowing down considerable where it disappears under the talus of the hill-side.

About 100 feet north of this wide outcrop on the Eneveloe claim can be seen several narrow stringers of quartz cutting through the schist. From one of these, about eight inches to one foot wide was cut.

Sample No. 27 ----- 0.42 oz. gold

From a second vein of very variable width, but not more than one foot, was out:

Sample No. 28 ----- 0.02 oz. gold

From the samples taken from the outcrops of the various veins of this group, it is evident that nothing of a mineable nature exists, and they may be dismissed from further consideration.

In the vicinity of the Star Group of claims, one or two pits were seen showing unmineralized quartz. These were not considered worth while sampling.

In the Open Cuts on Schultz's ground, north-east of the Star Group, a piece of quartz containing visible gold was found, and a pan from the loose rock of one of the Cuts showed a few colors. It is said that the vein petered out in the bottom of Schultz's forty foot shaft.

On Bart Buckley's claim at the head of Nugget Gulch, east of Little Squaw Creek, is an Open Cut on a vein of partially mineralized quartz, eleven feet wide. This Cut is about 100' back from an equally

strong exposure of the same vein on the brow of the hill. Here a grab sample was taken, favoring the mineralized quartz:

Sample No. 30 ----- 0.04 oz. gold

From the south wall of the quartz in the same Cut, I picked a selected sample of quartz containing numerous streaks of sulphides:

Sample No. 31 ----- 0.06 oz. gold

About 200 feet west of this vein is another narrow vein. A pan from a sample of this latter gave negative results.